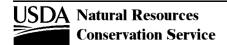
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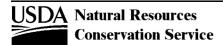
[This report lists only those map unit components that are rated as hydric. Dashes (---) in any column indicate that the data were not included in the database. Definitions of hydric criteria codes are included at the end of the report]

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
1015A: Havelock clay loam, 0 to 2 percent slopes, frequently flooded	Havelock, frequently flooded	80	Flood plains	Yes	2B3, 4
	Havelock, occasionally flooded	10	Flood plains	Yes	2B3
	Calco, frequently flooded	5	Flood plains	Yes	2B3, 4
	Spillco, frequently flooded	5	Flood plains	Yes	4
1024A: Havelock clay loam, 0 to 2 percent slopes, occasionally flooded	Havelock, occasionally flooded	80	Flood plains	Yes	2B3
	Havelock, frequently flooded	10	Flood plains	Yes	2B3, 4
	Spillco, occasionally flooded	5	Flood plains	No	
	Comfrey, occasionally flooded	3	Flood plains	Yes	2B3
	Calco, occasionally flooded	2	Flood plains	Yes	2B3
GP: Pits, gravel-Udipsamments complex	Pits, gravel	80	Moraines, Outwash plains, Stream terraces		
	Udipsamments	20	Moraines, Outwash plains, Stream terraces		
M-W: Water, miscellaneous	Water, miscellaneous	100			
P3A: Biscay silty clay loam, 0 to 2 percent slopes, occasionally flooded	Biscay, occasionally flooded	85	Outwash plains	Yes	2B3
·	Cylinder, occasionally flooded	10	Outwash plains	No	
	Talcot, occasionally flooded	5	Outwash plains	Yes	2B3



### Rock County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
P4A:					
Calco silty clay loam, 0 to 2 percent slopes, frequently flooded	Calco, frequently flooded	80	Flood plains	Yes	2B3, 4
	Calco, occasionally flooded	10	Flood plains	Yes	2B3
	Havelock, frequently flooded	5	Flood plains	Yes	2B3, 4
	Spillco, frequently flooded	5	Flood plains	Yes	4
P5A:					
Calco silty clay loam, 0 to 2 percent slopes, occasionally flooded	Calco, occasionally flooded	80	Flood plains	Yes	2B3
	Calco, frequently flooded	5	Flood plains	Yes	2B3, 4
	Colo, occasionally flooded	5	Flood plains	Yes	2B3
	Havelock, occasionally flooded	5	Flood plains	Yes	2B3
	Spillco, occasionally flooded	5	Flood plains	No	
P6A:					
Colo silty clay loam, 0 to 2 percent slopes, occasionally flooded	Colo, occasionally flooded	80	Flood plains	Yes	2B3
	Calco, frequently flooded	5	Flood plains	Yes	2B3, 4
	Calco, occasionally flooded	5	Flood plains	Yes	2B3
	Comfrey, occasionally flooded	5	Flood plains	Yes	2B3
	Spillco, occasionally flooded	5	Flood plains	No	
P7A: Comfrey clay loam, 0 to 2 percent	Comfrey, occasionally	80	Flood plains	Yes	2B3
slopes, occasionally flooded	flooded	00	r lood plains	163	203
	Colo, occasionally flooded	5	Flood plains	Yes	2B3
	Havelock, occasionally flooded	5	Flood plains	Yes	2B3
	Havelock, frequently flooded	5	Flood plains	Yes	2B3, 4
	Spillco, occasionally flooded	5	Flood plains	No	



### Rock County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
P8A:					_
Cylinder loam, 0 to 2 percent slopes, occasionally flooded	Cylinder, occasionally flooded	80	Outwash plains	No	
	Fairhaven	10	Outwash plains	No	
	Spillco, occasionally flooded	10	Flood plains	No	
P11A: Dempster silt loam, 0 to 2 percent slopes	Dempster	90	Outwash plains	No	
	Graceville	10	Outwash plains	No	
P11B: Dempster silt loam, 2 to 6 percent slopes	Dempster	90	Outwash plains	No	
	Graceville	10	Outwash plains	No	
P12B: Everly silty clay loam, 2 to 6 percent slopes	Everly	80	Till plains	No	
·	Sac	10	Till plains	No	
	Ransom	5	Till plains	No	
	Wilmonton	5	Till plains	No	
P12C2: Everly silty clay loam, 6 to 12 percent slopes, eroded	Everly, moderately eroded	80	Till plains	No	
	Everly	10	Till plains	No	
	Moneta	5	Till plains	No	
	Wilmonton	5	Till plains	No	
P13A: Fairhaven silt loam, 0 to 2 percent slopes	Fairhaven	85	Outwash plains	No	
	Cylinder	5	Outwash plains	No	
	Dempster	5	Outwash plains	No	
	Flandreau	5	Outwash plains	No	



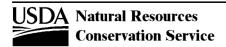
### Rock County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
P13B:					
Fairhaven silt loam, 2 to 6 percent slopes	Fairhaven	80	Outwash plains	No	
	Cylinder	5	Outwash plains	No	
	Dempster	5	Outwash plains	No	
	Flandreau	5	Outwash plains	No	
	Kanaranzi	5	Outwash plains	No	
P14A: Flandreau silt loam, 0 to 2 percent	Flandreau	90	Outwash plains	No	
slopes	Grovena	10	Outwash plains	No	
P14B:					
Flandreau silt loam, 2 to 6 percent slopes	Flandreau	80	Outwash plains	No	
	Grovena	10	Outwash plains	No	
	Thurman	10	Outwash plains	No	
P15B: Galva silty clay loam, 2 to 5 percent	Galva	80	Till plains	No	
slopes	Primghar	10	Till plains	No	
	Annieville	5	Till plains	No	
	Sac	5	Till plains	No	
P15C2: Galva silty clay loam, 5 to 9 percent	Galva, moderately eroded	80	Till plains	No	
slopes, eroded	•				
	Galva	10	Till plains	No	
	Sac, moderately eroded	5	Till plains	No	
	Judson	3	Till plains	No	
	Primghar	2	Till plains	No	



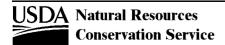
### Rock County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
P16A: Graceville silty clay loam, 0 to 2 percent slopes	Graceville	90	Outwash plains	No	
	Dempster	10	Outwash plains	No	
P16B: Graceville silty clay loam, 2 to 6 percent slopes	Graceville	90	Outwash plains	No	
регости эторез	Dempster	10	Outwash plains	No	
P17A: Ihlen silty clay loam, 0 to 2 percent slopes	Ihlen	93	Till plains	No	
	Bluemound	3	Till plains	No	
	Soils that are deep to bedrock	3	Till plains	No	
	Rock outcrop	1	Till plains		
P17B: Ihlen silty clay loam, 2 to 6 percent slopes	Ihlen	80	Till plains	No	
'	Bluemound	10	Till plains	No	
	Rock outcrop	5	Till plains		
	Soils that are deep to bedrock	5	Till plains	No	
P18B:					
Ihlen-Rock outcrop complex, 0 to 4 percent slopes	Ihlen	55	Till plains	No	
	Rock outcrop	25	Till plains		
	Bluemound	10	Till plains	No	
	Soils that are deep to bedrock	10	Till plains	No	



### Rock County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
P18C:					
Ihlen-Rock outcrop complex, 4 to 35 percent slopes	Ihlen	45	Till plains	No	
	Rock outcrop	40	Till plains		
	Bluemound	10	Till plains	No	
	Soils that are deep to bedrock	3	Till plains	No	
	Spillco, occasionally flooded	2	Flood plains	No	
P19A: Judson silty clay loam, 1 to 3 percent slopes	Judson	80	Till plains	No	
S. S	Whitewood, overwash	14	Till plains	No	
	Primghar	6	Till plains	No	
P20B:					
Judson silt loam, 3 to 8 percent slopes	Judson	80	Till plains	No	
	Primghar	10	Till plains	No	
	Galva	5	Till plains	No	
	Whitewood, overwash	5	Till plains	No	
P21A: Marcus silty clay loam, 0 to 2 percent slopes	Marcus	80	Till plains	Yes	2B3
	Whitewood, frequently flooded	10	Till plains	Yes	2B3
	Primghar	5	Till plains	No	
	Spicer	5	Till plains	Yes	2B3
P24B: Moody silty clay loam, 2 to 5 percent slopes	Moody	85	Till plains	No	
	Primghar	10	Till plains	No	
	Nora, moderately eroded	3	Till plains	No	
	Splitrock	2	Till plains	No	



### Rock County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
P24C2:					
Moody silty clay loam, 5 to 9 percent slopes, eroded	Moody, moderately eroded	80	Till plains	No	
	Moody	5	Till plains	No	
	Nora, moderately eroded	5	Till plains	No	
	Splitrock, moderately eroded	5	Till plains	No	
	Primghar	3	Till plains	No	
	Crofton, moderately eroded	2	Till plains	No	
P25C2: Nora silt loam, 4 to 10 percent slopes, eroded	Nora, moderately eroded	85	Till plains	No	
	Crofton, moderately eroded	5	Till plains	No	
	Judson	5	Till plains	No	
	Moody, moderately eroded	5	Till plains	No	
P25D2:					
Nora silt loam, 10 to 18 percent slopes, eroded	Nora, moderately eroded	80	Till plains	No	
	Crofton, moderately eroded	10	Till plains	No	
	Judson	5	Till plains	No	
	Moody, moderately eroded	5	Till plains	No	
P26C2: Nora-Crofton complex, 6 to 12 percent slopes, eroded	Nora, moderately eroded	50	Till plains	No	
	Crofton, moderately eroded	30	Till plains	No	
	Judson	10	Till plains	No	
	Moody, moderately eroded	10	Till plains	No	



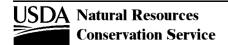
### Rock County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
P26D2:					
Nora-Crofton complex, 12 to 18 percent slopes, eroded	Nora, moderately eroded	45	Till plains	No	
	Crofton, moderately eroded	35	Till plains	No	
	Judson	14	Till plains	No	
	Moody, moderately eroded	6	Till plains	No	
P27A:					
Primghar silty clay loam, 1 to 3 percent slopes	Primghar	80	Till plains	No	
	Galva	8	Till plains	No	
	Marcus	8	Till plains	Yes	2B3
	Judson	4	Till plains	No	
P28A: Ransom silty clay loam, 1 to 3 percent slopes	Ransom	80	Till plains	No	
Siopeo	Rushmore	8	Till plains	Yes	2B3
	Sac	8	Till plains	No	
	Primghar	4	Till plains	No	
P29A: Rushmore silty clay loam, 0 to 2 percent slopes	Rushmore	80	Till plains	Yes	2B3
1	Ransom	10	Till plains	No	
	Whitewood, frequently flooded	10	Till plains	Yes	2B3
P30B:					
Sac silty clay loam, 2 to 5 percent slopes	Sac	80	Till plains	No	
	Annieville	10	Till plains	No	
	Primghar	5	Till plains	No	
	Ransom	5	Till plains	No	



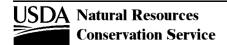
### Rock County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
P30C2: Sac silty clay loam, 5 to 10 percent	Sac, moderately eroded	80	Till plains	No	
slopes, eroded	Annieville	10	Till plains	No	
	Sac	5	Till plains	No	
	Primghar	3	Till plains	No	
	Ransom	2	Till plains	No	
P31A: Spicer silty clay loam, 0 to 2 percent	Spicer	85	Till plains	Yes	2B3
slopes	Marcus	10	Till plains	Yes	2B3
	Whitewood	5	Till plains	Yes	2B3
P32A:					
Spillco silt loam, 0 to 2 percent slopes, frequently flooded	Spillco, frequently flooded	85	Flood plains	Yes	4
	Spillco, occasionally flooded	10	Flood plains	No	
	Havelock, frequently flooded	5	Flood plains	Yes	2B3, 4
P33A: Spillco silt loam, 0 to 2 percent slopes,	Spillco, occasionally flooded	85	Flood plains	No	
occasionally flooded	Spillco, frequently flooded	10	Flood plains	Yes	4
	Comfrey, occasionally flooded	5	Flood plains	Yes	2B3
P34B: Splitrock silty clay loam, 2 to 5 percent	Splitrock	82	Till plains	No	
slopes	Primghar	10	Till plains	No	
	Soils that are deep to till	8	Till plains	No	



### Rock County, Minnesota

map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
P34C2:					
Splitrock silty clay loam, 5 to 9 percent slopes, eroded	Splitrock, moderately eroded	80	Till plains	No	
	Splitrock	10	Till plains	No	
	Primghar	5	Till plains	No	
	Soils that are deep to till	5	Till plains	No	
P36A:					_
Talcot silty clay loam, 0 to 2 percent slopes, occasionally flooded	Talcot, occasionally flooded	85	Outwash plains	Yes	2B3
	Biscay, occasionally flooded	10	Outwash plains	Yes	2B3
	Cylinder, occasionally flooded	5	Outwash plains	No	
P37B:					
Talmo gravelly sandy loam, 2 to 6 percent slopes	Talmo	90	Outwash plains	No	
	Kanaranzi	5	Outwash plains	No	
	Thurman	5	Outwash plains	No	
P37D:					
Talmo gravelly sandy loam, 6 to 35 percent slopes	Talmo	90	Outwash plains	No	
	Kanaranzi	5	Outwash plains	No	
	Thurman	5	Outwash plains	No	
P38B: Thurman sandy loam, 2 to 6 percent	Thurman	90	Outwash plains	No	<del></del>
slopes					
	Henkin	10	Outwash plains	No	
P38C: Thurman sandy loam, 6 to 12 percent slopes	Thurman	90	Outwash plains	No	
•	Henkin	10	Outwash plains	No	



### Rock County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
P40A:					
Bluemound silt loam, 0 to 3 percent slopes	Bluemound	85	Till plains	No	
	Ihlen	10	Till plains	No	
	Rock outcrop	5	Till plains	Unranked	
P41A: Rosedell silty clay loam, 0 to 2 percent	Rosedell	95	Lake plains	Yes	2B3
slopes	Spicer	3	Lake plains	Yes	2B3
	Albolls	2	Lake plains	Yes	2B3
P42A: Whitewood silty clay loam, 0 to 2	Whitewood	70	Till plains	Yes	2B3
percent slopes	Whitewood, frequently flooded	10	Till plains	Yes	2B3
	Whitewood, overwash	10	Till plains	No	
	Primghar	9	Till plains	No	
	Wakonda	1	Till plains	No	
P43A: Wilmonton silty clay loam, 1 to 3	Wilmonton	85	Till plains	No	
percent slopes	Everly	5	Till plains	No	
	Ransom	5	Till plains	No	
	Rushmore	5	Till plains	Yes	2B3
P44E: Shindler clay loam, 15 to 45 percent slopes	Shindler	85	Till plains	No	
	Judson	10	Till plains	No	
	Soils that are moderately deep to carbonates	5	Till plains	No	



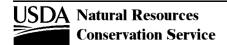
### Rock County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
P45E:					
Moneta clay loam, 15 to 45 percent slopes	Moneta	85	Till plains	No	
	Judson	10	Till plains	No	
	Soils that are moderately deep to carbonates	5	Till plains	No	
P46:	_				
Trent silty clay loam, 1 to 3 percent slopes	Trent	78	Drainageways	No	
	Moody	14	Hillslopes	No	
	Splitrock	4	Hillslopes	No	
	Whitewood	4	Drainageways	Yes	2B3
P47A: Whitewood silty clay loam, overwash, 0 to 2 percent slopes	Whitewood, overwash	80	Till plains	No	
	Judson	10	Till plains	No	
	Whitewood, frequently flooded	10	Till plains	Yes	2B3
P48A:					
Allendorf silty clay loam, 0 to 2 percent slopes	Allendorf	85	Outwash plains	No	
	Kanaranzi	5	Outwash plains	No	
	Sac	5	Outwash plains	No	
	Soils that are moderately well drained	5	Outwash plains	No	
P48B:	Allow down	0.5	Outropals relation	NI-	
Allendorf silty clay loam, 2 to 6 percent slopes	Allendorf	85	Outwash plains	No	
	Kanaranzi	5	Outwash plains	No	
	Sac	5	Outwash plains	No	
	Soils that are moderately well drained	5	Outwash plains	No	



### Rock County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
P55A: Kato silty clay loam, 0 to 2 percent slopes	Kato	90	Outwash plains	Yes	2B3
	Somewhat poorly drained soils	10	Outwash plains	No	
W: Water	Water	100			



This table lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2003) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

- 1. All Histels except for Folistels, and Histosols except for Folists.
- 2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
  - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
  - B. are poorly drained or very poorly drained and have either:
    - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
    - 2) a water table at a depth of 0.5 foot or less during the growing season if
      - permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
    - 3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
- 3. Soils that are frequently ponded for long or very long duration during the growing season.
- 4. Soils that are frequently flooded for long or very long duration during the growing season.

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